The Effect of Injection of Saline Adrenaline (1/100000) 15ml versus 5ml on the Skin Edema and Thickness in Rhinoplasty Intraoperative

Thesis Study

Submitted in partial fulfillment

For Master Degree of Otorhinolaryngology

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Marwa Saeed

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ABSTRACT

Background: Nasal skin edema is a common result of soft and bony tissue trauma during rhinoplastic procedures. In a cosmetic surgery like rhinoplasty, skin edema can fade the cosmetic results and can lead to dissatisfaction for both the surgeon and the patient. Local saline /adrenaline injection is claimed to reduce the nasal skin edema intraoperative.

Aim of the work: To assess effect of injection of saline adrenaline (1/100000) 15ml versus 5ml on the skin oedema and thickness during rhinoplasty through thesis study.

Subjects and Methods: In this study 30 cases of rhinoplasty will be operated, 15 cases will be injected by saline adrenaline (1/100000) of 5ml and the others 15 cases will be injected by saline adrenaline (1/100000) of 15 ml, then measuring the skin oedema after 10 minutes of saline adrenaline (1/100000) injection, after 30 minutes and after 60 minutes of the injection at three sites; the dorsum, supratip and the tip of the nose by Seal Gouge Caliper (surgical caliber).

Results: the intraoperative skin edema was significantly decreased with local injection of large amount (15ml) of saline /adrenaline 1/100000 than the usual injected amount (5ml) saline /adrenaline 1/100000 specially at the tip and the supratip of the nose and specially at 30 min and 60 min after injection, but statistically significance difference only at 60min at the dorsum.

Conclusion that the skin oedema much less with injection of 15ml of saline adrenaline (1/100000) in comparison to injection of 5ml of saline adrenaline (1/100000).

Keywords: Rhinoplasty, Adrenaline, edema.

Introduction

INTRODUCTION

Rhinoplasty is an operation that only few surgeons are considered to truly master the wide scope of technical nuances. Rhinoplasty was said to be a procedure that is not too difficult to carry out but extremely challenging for consistent outstanding results. Rhinoplasty has changed considerably in the last decades from a standardized reduction procedure to a highly differentiated problem oriented procedure with reductions, relocation and augmentation of tissues are frequently combined. In addition, different techniques are popularized by senior surgeons. These sometimes contradictory approaches can be confusing and intimidating for both the novice and the advanced surgeon. Even the expert will admit that "noses are difficult to predict" ***(Stucker, 2003).*** Septo-rhinoplasty is without doubt one of the most difficult operations in facial plastic surgery ***(Szalay, 1996).***

The nose, at the center of the human face, is plain for all to see and critique. The successful rhinoplasty must produce a pleasing result to the eye and still maintain proper function ***(Harsha, 2013).***

The development of this operation has not been a steady, gradual process, but has occurred in three great spurts. Each of these three phases has occurred in different continents and was dominated by a surgeon of genius.

The history of rhinoplasty started in India about 600 BC and the surgical innovator was a rather shadowy figure called Susruta. The full details and dates of his work, however, are unknown to us. Italy was the site for the second phase, which occurred during the Renaissance, and the name of gaspare tagliacozzi (1545-1599) will always be associated with this period. Finally, we have the modern phase where

the main developments have occurred in Northern Europe and North America ***(Brain, 1993)*.**

Whether it is done for primarily functional or aesthetic concerns, it is imperative that the surgeon be highly aware of the functional and structural tenets of the nose. Certainly, its important functions include warming and humidification of inspired air, along with olfaction. To the rhinoplastic surgeon, however, air flow is chief among the nose's purposes ***(Weissman and Most, 2013)*.**

Although objective quantitative measures and expert technique are important to the outcome, the subjective qualitative evaluation by the patient ultimately determines patient satisfaction and a successful outcome in aesthetic facial plastic surgery ***(Yu et al., 2010)*.**

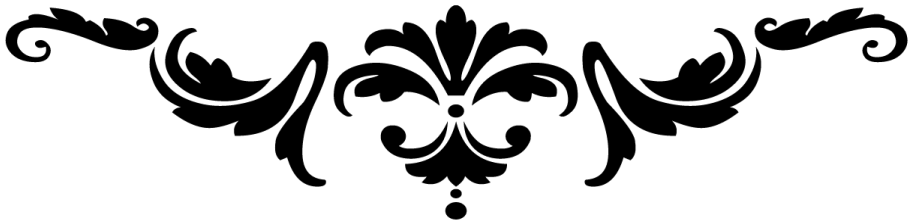
Every surgical operation has a tendency to complications, and only the surgeon who does not operate has no complications.

A knowledge of relevant complications and sequelae is essential to enlighten the patient so that an informed decision can be made, for reducing the incidence of such complications, for minimizing the gravity of an impending complication, and for treating a complication once it has occurred ***(Fernandes, 2016)*.**

Technological advances in materials and surgical techniques have simplified and reduced complications in many aesthetic procedures. But rhinoplasty continues to present challenges to the aesthetic surgeon and patient alike. Many of these complications in rhinoplasty can be avoided by meticulous attention to detail during the operative procedure. This is perhaps most important at the end of the operative procedure. A final check of the surgical result prior to suturing and splinting is mandatory ***(Harsha, 2013)*.**

A thorough preoperative evaluation of both the structure and function of the nose is essential in identifying and avoiding the potential pitfalls that may compromise nasal function postoperatively ***(Weissman and Most, 2013)*.**

Aim of the Work



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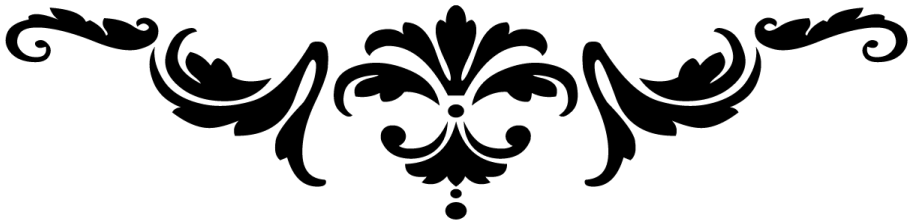
Chapter (1)

Functional Anatomy



Chapter (1)

FUNCTIONAL ANATOMY

The ***supporting framework of the external nose*** consists of a bony skeleton from the nasal bones, frontal processes of the maxillae and nasal part of the frontal bone and a cartilaginous framework consisting of septum, upper and lower lateral cartilages and a variable number of minor accessory alar cartilages ***(Fig. 1) (Stammberger and Valerie, 2008).***

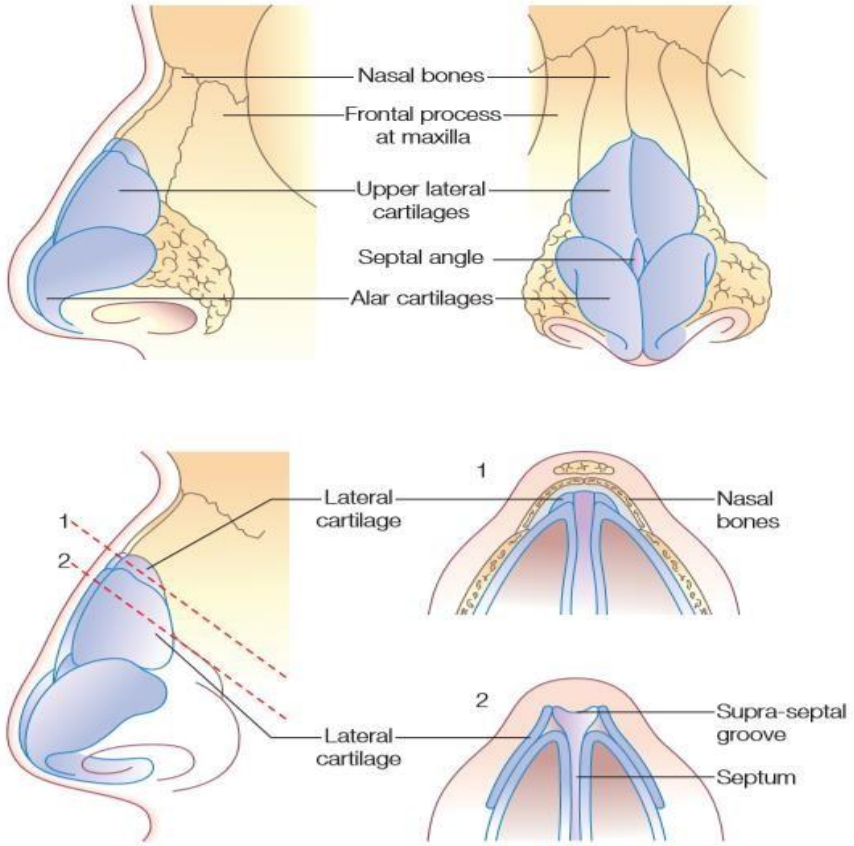


Figure (1): Bony and cartilaginous framework of the nose ***(Stammberge and Valerie, 2008).***

Nasal bones: